

# **Appendix B**

## **Summary of Preserve Activity for Preserves Managed by CNLM and CDFG**

**Nov 2007-Oct 2008**



- I. Preserve Name:** Agua Hedionda Lagoon Ecological Reserve
- II. Management Year:** 2007/2008
- III. Preserve Management Entity:** CDFG
- IV. Year of Inception:** Pre-existing (pre-HMP) preserve
- V. Summary of All Management and Monitoring Activities:**

**Species-Related Management and Monitoring**

**Light-footed Clapper Rail**

**Administration:** The SCR entered into a contract with the Huntington Beach Wetlands Conservancy (Richard Zembal, principal investigator) to provide population monitoring, nest searching, nest platform augmentation, and other conservation activities for the rail throughout its California range, including the lagoons in Carlsbad.

**Monitoring program:** Clapper rails are typically monitored by two methods - spring call counts and winter high tide counts.

**Belding's Savannah Sparrow**

**Administration:** The California Department of Fish and Game have contracted with Richard Zembal to provide population monitoring throughout California, including all three lagoons in Carlsbad.

**Monitoring program:** There were no focused surveys for this species in 2008, but numbers of pairs, nests, and fledglings incidentally observed in the CLT/WSP nesting areas were documented. The last census was conducted in 2006.

**California Gnatcatcher**

**Monitoring program:** Following standardized methodologies (focused survey, 2 visits), SCR staff monitored California gnatcatchers at Carlsbad Highlands ER, Agua Hedionda ER, Buena Vista Creek ER, and Batiquitos Lagoon ER.

Most recent survey: 7/17/08; next proposed survey: 2009.

**VI. Primary Threats to Preserve, Species or Vegetation Types:**

**Threats to Habitat**

- ***Caulerpa taxifolia*.** This year marks the second anniversary of the formal eradication of *Caulerpa taxifolia*. *Caulerpa taxifolia* is a non-native and highly invasive marine seaweed that is thought to have come from dumped fish aquaria (it

has been used as an ornamental); however, it can spread from contaminated boats or fishing gear as well. This algae can establish extensive dense carpets, smothering diverse natural communities and dramatically reducing biodiversity by displacing native seaweeds and animals. It is an aggressive species with extremely rapid growth. Continued vigilance will be critical.

- **Upstream development.** Development upstream from lagoons has resulted in changes to the hydrology, increased peak flows, erosion, and reduced water quality due to higher levels of pesticides, herbicides, and fertilizers. Low Impact Development standards, Carlsbad Watershed Management Plan (2002), and Agua Hedionda Management Plan (2008) provide tools to solve these problems.

### **Threats to Species**

**Light-footed Clapper Rail:** The brackish marsh inland of the inner lagoon was greatly impacted by a change in drainage in the mid-1980s and the rails were barely detectable through the 1990s. With the recently increased street runoff from adjacent housing, the main freshwater marsh has rejuvenated to some extent, perhaps to the benefit of the rails as evidenced by the record number in 2006. Five captive-bred rails were released into Agua Hedionda Lagoon in 2004 on the inland edge of the inner lagoon but none has been re-sighted since (Zemba et al. 2007).

**Belding's Savannah Sparrow:** Tidal access is heavily muted due to the narrowness of the maintained ocean entrance and tidal access under the freeway. Other problems include human trespass, off-road bicycles, and off-leash dogs (Zemba et al. 2006).

**California Gnatcatcher:** Homeless encampments.

**Least Bell's Vireo:** none reported.

## **VII. Sensitive Species Status (by year):**

<b>Species</b>	<b>Latest Survey</b>	<b>Number Pairs/Individuals</b>
Light-footed Clapper Rail	2007	4 pairs
	2008	7 pairs
Belding's Savannah Sparrow	2006	24 psitd
California Gnatcatcher	7-17-08	4 pairs, 5 indiv.
Least Bell's Vireo	2008	2 pair

**VIII. Endowment/funding accounting:** Budget to Actual for fiscal year, starting endowment amount and year, current endowment amount, inflation adjusted endowment amount.

This preserve is not funded through an endowment.

- I. Preserve Name: Batiquitos Lagoon Ecological Reserve**
- II. Management Year: 2007/2008**
- III. Preserve Management Entity: CDFG**
- IV. Year of Inception: Pre-existing (pre-HMP) preserve**
- V. Summary of All Management and Monitoring Activities:**

Some history: Port of Los Angeles began the Batiquitos Lagoon Enhancement Project to mitigate for the loss of deepwater fish habitat due to construction for the Lost Angeles Harbor. Mitigation included dredging to reconfigure the lagoon to restore tidal flows, construction and management of least tern nesting habitat, long-term biological monitoring and a pilot revegetation program. Monitoring began in 1996, and was conducted in years 1, 2, 3, 5, and 10. Goals of the monitoring plan included evaluating the effectiveness of the restoration in providing habitat for fish and wildlife, and documenting changes in the ecology of the lagoon environment over time. The final 10-year monitoring report is due out in 2009.

No vegetation surveys other than invasive species surveys have been conducted. The primary habitat management actions have focused on keeping people on the trails and removing invasive species. Restoration of areas from which invasives have been removed, include coastal sage scrub on the slopes, and natural recruitment in the wetland areas. In addition, surveys of listed species are conducted regularly and incidental observations of other species are recorded. Primary nesting sites of least tern, western snowy plover and Belding's savannah sparrow are protected by fencing and signs, and by the coastal warden patrols. Predator control is conducted on the nesting areas as well.

#### **Species-Related Management and Monitoring**

##### **Light-footed Clapper Rail**

**Administration:** The SCR entered into a contract with the Huntington Beach Wetlands Conservancy (Richard Zembal, principal investigator) to provide population monitoring, nest searching, nest platform augmentation, and other conservation activities for the rail throughout its California range, including the lagoons in Carlsbad. SCR biological staff managed a contract with USDA Wildlife Services to provide predator management at Batiquitos Lagoon.

**Monitoring program:** Clapper rails are typically monitored by two methods - spring call counts and winter high tide counts. A description of the two methods was included in past annual reports.

### **Belding's Savannah Sparrow**

**Administration:** The SCR entered into a contract with Shauna Wolf to monitor birds at Batiquitos Lagoon Ecological Reserve. Observations of Belding's savannah sparrow were documented. In addition, the California Department of Fish and Game have contracted with Richard Zembal to provide population monitoring throughout California, including all three lagoons in Carlsbad.

**Monitoring program:** There were no focused surveys for Belding's, but numbers of pairs, nests, and fledglings incidentally observed in the CLT/WSP nesting areas were documented. The last regular census was conducted in 2006.

### **California Least Tern**

**Administration:** SCR staff managed a contract in 2008 to provide monitoring of California least terns at Batiquitos Lagoon (Shauna Wolf). SCR biological staff managed a contract with USDA Wildlife Services to provide predator management.

**Monitoring program:** The following monitoring data were collected: dates of first and last monitoring visits, number of visits during the season, whether individual nests are marked (as with tongue depressors), whether individual eggs are marked (such as with numbers on shell in permanent ink), whether chicks are banded. Biological data are collected in the following categories: estimation of breeding pairs (based on number of nests, less the number of re-nests), productivity (total number of nests, number of eggs, number of chicks hatched, number of chicks reaching fledgling age, number of fledglings surviving to disperse). Mortality and predation data are also collected.

### **Western Snowy Plover**

**Administration:** SCR staff managed a contract to provide monitoring of snowy plovers at Batiquitos Lagoon (Shauna Wolf). Mini-enclosures were used to protect individual snowy plover nests at Batiquitos. SCR biological staff managed a contract with USDA Wildlife Services to provide predator management at Batiquitos Lagoon.

**Monitoring program:** Rough summary numbers are anticipated 10-27-08 and a final report draft on 11-28.

### **California Gnatcatcher**

**Monitoring program:** Following standardized methodologies (focused survey, 2-3 visits), SCR staff monitored California gnatcatchers at Carlsbad Highlands ER, Agua Hedionda ER, Buena Vista Creek ER, and Batiquitos Lagoon ER.

Most recent survey: 6/20/08.

Next proposed survey: 2009.

## **VI. Primary Threats to Preserve, Species or Vegetation types:**

### **Threats to Habitats**

- **Upstream development.** Development upstream from lagoons has resulted in changes to the hydrology, increased peak flows, erosion, and reduced water quality due to higher levels of pesticides, herbicides, and fertilizers. Low Impact Development standards, Carlsbad Watershed Management Plan (2002), and Agua Hedionda Management Plan (2008) provide tools to solve these problems.
- The most prevalent invasive species are monotypic stands of mustard, fennel and pampas grass, although lots of other species occur at Batiquitos Lagoon.

### **Threats to Species**

**Light-footed Clapper Rail:** No current threats. The ecological functionality of the wetland has improved dramatically over time due to the major restoration project implemented there, which included opening up the lagoon to the ocean. Since then the carrying capacity for Clapper Rails has been on the rise (Zembal et al. 2007).

**Belding's Savannah Sparrow:** Ravens and/or crows. Several nests each year are lost to ravens. Chicks lost this year were thought to be due to ravens or crows (Shauna Wolf, written comm.). The 44% reduction in this species since 2001 is due to the condition of the upper marsh habitat lining the inner lagoon. Most of the pickleweed belt is too small to accommodate this species. Increased urban run-off is contributing to areas of upper marsh reverting back to brackish marsh (Zembal et al. 2006).

**California Least Tern:** There was more human disturbance this year, but this was not the cause of the failure of fledglings.

**Western Snowy Plover:** The drop in snowy plover numbers may be due to the growth of cord grass in the last couple of years and predator problems.

**California Gnatcatcher:** None reported.

**Least Bell's Vireo:** None reported

## VII. Sensitive Species Status (by year):

Species	Most Recent Survey	Most Recent Number Pairs/Individuals	General Status
Light-footed Clapper Rail	2007 2008	22 pairs 22 pairs	Thriving and gradually increasing
Belding's Savannah Sparrow	2006 2007 2008	4 nests, 7 chicks/eggs hatched 9 nests, 20 chicks/eggs hatched 6 nests, 16 checks/eggs hatched	variable
California Least Tern	2006 2007 2008	637 nests, 223-270 fledglings 594 nests, 146-226 fledglings 610 nests, 143-187 fledglings	Stable. Increase in clutch size over last three years but poor fledgling production
Western Snowy Plover	2006 2007 2008	18 breeding adults, 16 nests 4 breeding adults, 5 nests 8+ breeding adults, 6 nests	Numbers are plummeting
California Gnatcatcher	6-20-08	1 pair, 8 individuals	2005: 3 pairs (one pair had 2 fledges and another pair had 4 fledges), 1 adult male

## VIII. Endowment/funding accounting: Budget to Actual for fiscal year, starting endowment amount and year, current endowment amount, inflation adjusted endowment amount.

This preserve is not funded through an endowment



**I. Preserve Name: Buena Vista Creek Ecological Reserve**

**II. Management Year: 2007/2008**

**III. Preserve Management Entity: CNLM (Owned by CDFG)**

**IV. Year of Inception: 2007**

**V. Summary of All Management and Monitoring Activities:**

**General Preserve Management and Species Monitoring Conducted by CNLM**

- No Trespassing signs were posted along the HCA boundary and at main access points
- Fencing was installed along portions of the southern and northern boundary. Access gates were also installed
- Three mini-kiosks were installed
- Signs were placed near the Heritage Trees to ensure their protection
- Trash and debris was removed as part of National Public Lands Day, and by the farmer who previously farmed portions of the property
- Many nonnative plant species were treated within the riparian areas by the Carlsbad Watershed Network, including thousands of pampas grass, palm, eucalyptus, shamel ash and other species
- About 10 acres of solid fennel were treated in the upland areas
- Vegetation communities were mapped and entered into GIS
- CDFG conducted one survey for sensitive bird species and recorded 3-4 pair of coastal California gnatcatcher and 3-4 pair of least Bell's vireo
- CNLM participated in a number of public outreach events planned by Preserve Calavera
- CNLM conducted one brief sensitive plant survey and observed and mapped thread-leaved brodiaea
- Fuel zones were cleared or thinned as prescribed
- Routine patrols were conducted
- Database development was initiated
- An annual work plan for the upcoming fiscal year was developed
- A draft habitat management plan was prepared

## **Species Management and Monitoring Conducted by CDFG**

### **California Gnatcatcher**

**Monitoring program:** Following standardized methodologies (focused survey, 1 visit), SCR staff monitored California gnatcatchers at Carlsbad Highlands ER, Agua Hedionda ER, Buena Vista Creek ER, and Batiquitos Lagoon ER.

Most recent survey: 6/13/08.

Next proposed survey: 2010.

### **Least Bell's Vireo**

**Monitoring program:** Following standardized methodologies, SCR staff monitored least Bell's vireo at Buena Vista Creek ER. There are approximately 3 to 4 pairs on this Ecological Reserve.

## **VI. Primary Threats to Preserve, Species or Vegetation types<sup>1</sup>:**

### **Threats to Species**

**California Gnatcatcher:** Need fennel removal in SW portion of ER

**Least Bell's Vireo:** None reported

### **Threats to Habitat**

<b>Threat</b>	<b>Locations</b>	<b>Size or Severity</b>	<b>Management Actions</b>	<b>Planned Actions</b>
<b>INVASIVE SPECIES</b>				
Pampas grass <b>H</b>	Throughout riparian and in some upland areas	Found throughout the Reserve	Nearly all Pampas was treated in the fall of 2007 and retreated in 2008.	CWN will continue to treat until the end of 2009
Perennial pepperweed ( <i>Lepidium latifolium</i> ) <b>H</b>	Riparian areas	Patch less than ½ acre in size	None	None
Saltcedar ( <i>Tamarix</i> ssp) <b>H</b>	Riparian areas	Less than 30 individuals	None	These will be treated by CWN or CNLM in the next few years
Giant reed ( <i>Arundo donax</i> ) <b>H</b>	Riparian areas.	Less than 10 clumps	Clumps were treated in the fall of 2007 and again in the fall of 2008	CWN will continue to treat until the end of 2009
Fennel ( <i>Foeniculum vulgare</i> ) <b>H</b>	In open areas near the northwestern boundary. In the uplands south of Buena Vista Creek	Thousands of clumps existed at the time management commenced south of Buena Vista Creek. Hundreds were observed north of Buena Vista Creek	Thousands of clumps, or at least 90%, were treated south of Buena Vista Creek in the spring of 2008. None were treated north of Buena Vista Creek	Resprouts south of Buena Vista Creek will be treated in upcoming fiscal years as budget permits.
Artichoke thistle <b>M</b>	Along the northern boundary	Less than 100 clumps	About 50 clumps were hacked with machetes.	This species will be removed as budget permits

<b>Threat</b>	<b>Locations</b>	<b>Size or Severity</b>	<b>Management Actions</b>	<b>Planned Actions</b>
<b>INVASIVE SPECIES</b>				
Hotentot fig ( <i>Carpobrotus edulis</i> ) <b>H</b>	Patch along northern boundary	Patch is about 1/10 of an acre	None	None planned
Shamal Ash ( <i>Fraxinus uhdei</i> )	Riparian area	Unknown, but likely in the 100's	Stump spraying commenced in September of 2008	Continued stump spraying into the upcoming fiscal year
Palm trees ( <i>Washingtonia</i> ssp, <i>Pheonix</i> ssp and others)	Riparian areas	Hundreds	Most were stumped sprayed in fall 2007. Those that were not killed were stump sprayed in fall 2008	CWN will continue to treat until the end of 2009
Acacia trees ( <i>Acacia</i> ssp)	Riparian areas	Unknown, but likely less than 30 trees	None	None
Virgina creeper ( <i>Parthenocissus</i> ssp.)	Riparian areas	Large stands	None	None
<b>EROSION</b>	Agricultural areas and along the northern access road	Not severe in the agricultural areas. The northern access road will require repair	None	CNLM will work with CDFG and the City of Oceanside Sewer dept to maintain the road. Archeological artifacts are preventing basis maintenance to occur
<b>ITINERANTS AND TRESPASS</b>	Riparian areas and upland areas	No itinerants known to occur at this time. Some motorcycle activity observed. Fence and gate vandlized	New camps observed were removed; individuals found were arrested or told to leave. Frequent patrols.	Frequent patrols
<b>TRASH AND DEBRIS</b>	Throughout	Minimal	Participated in the National Public Lands Day clean	Remove as observed

<sup>1</sup>There are many nonnative species at the Reserve. We try to annotate the main species, but the list is not inclusive.

H, M, L refer to California Invasive Plant Council rankings, and potential severity of plants, if present. H=high, M=moderate, L=limited

## VII. Sensitive Species Status (by year):

<b>Species</b>	<b>Latest Survey</b>	<b>Number</b>	<b>General Status</b>
California Gnatcatcher	6/13/08	3-4 pair	Not previously surveyed
Least Bell's Vireo	2008	3-4 pair	well protected

## VIII. Endowment/funding accounting: Budget to Actual for fiscal year, starting endowment amount and year, current endowment amount, inflation adjusted endowment amount.

<b>Site Name</b>	<b>Original Endowmt</b>	<b>FY07-08 Expend.</b>	<b>Endowmt 10/31/08</b>	<b>Initial &amp; Capital 10/31/08</b>	<b>Total Funds as of 10/31/08</b>	<b>Inflation Adj. Endmt 10/31/08</b>
Buena Vista Creek Ecological Reserve	\$776,644	\$86,245	\$579,906	\$109,567	\$689,473	\$806,439

- I. Preserve Name: Buena Vista Lagoon Ecological Reserve**
- II. Management Year: 2007/2008**
- III. Preserve Management Entity: CDFG**
- IV. Year of Inception: Pre-existing (pre-HMP) preserve**
- V. Summary of All Management and Monitoring Activities:**

**Habitat-related Management and Monitoring**

**Lagoon Restoration Project:**

An EIR is being prepared for the Buena Vista Lagoon Restoration Project, which would restore approximately 200 acres of wetland habitat to a predominantly saltwater system. A public scoping meeting was held in April, 2007. In September 2008, \$500,000 became available, as part of settlement agreement with the cities of Carlsbad and Vista for a massive 2007 sewage spill at the lagoon, to assist with completion of the final engineering studies needed for the EIR, and restoration of native habitat upstream from the lagoon. The CDFG and the USFWS are serving as co-lead agencies in Buena Vista Lagoon restoration planning. The Buena Vista Lagoon Restoration Working Group, consisting of representatives from regulatory agencies and funding sources, local agencies, non-profit organizations, and consultants, meets on a regular basis to provide guidance and feedback on the development of engineering and environmental studies and documents and track project progress. In addition, the California Coastal Conservancy provides project coordination and has contributed the major share of restoration planning funds to date.

**Species-related Management and Monitoring**

**Light-footed Clapper Rail**

**Administration:** The SCR entered into a contract with the Huntington Beach Wetlands Conservancy (Richard Zembal, principal investigator) to provide population monitoring, nest searching, nest platform augmentation, and other conservation activities for the rail throughout its California range, including the lagoons in Carlsbad. SCR biological staff managed a contract with USDA Wildlife Services to provide predator management at Batiquitos Lagoon.

**Monitoring program:** Clapper rails are typically monitored by two methods - spring call counts and winter high tide counts. A description of the two methods was included in past annual reports.

## **Belding's Savannah Sparrow**

**Administration:** The California Department of Fish and Game have contracted with Richard Zembal to provide population monitoring throughout California, including all three lagoons in Carlsbad.

**Monitoring program:** There were no focused surveys for this species in 2008, but numbers of pairs, nests, and fledglings incidentally observed in the CLT/WSP nesting areas were documented. The last census was conducted in 2006.

## **VI. Primary Threats to Preserve, Species or Vegetation types<sup>1</sup>:**

### **Threats to Habitats**

- **Upstream development.** Development upstream from lagoons has resulted in changes to the hydrology, increased peak flows, erosion, and reduced water quality due to higher levels of pesticides, herbicides, and fertilizers. Low Impact Development standards, Carlsbad Watershed Management Plan (2002), and Agua Hedionda Management Plan (2008) provide tools to solve these problems.
- **Sedimentation and lack of tidal flow.** See Lagoon Restoration Project above.

### **Threats to Species**

**Light-footed Clapper Rail:** Abundant non-native trees and shrubs that harbor perching predators and homeless humans; a sewage spill in 2007 raised concerns, but did not seem to harm the rails (Zembal et al. 2007).

**Belding's Savannah Sparrow:** Invasive species, trash, homeless encampments. The highest potential for habitat restoration is on the islands and on the northeast corner of inner lagoon (Zembal et al. 2006).

**California Gnatcatcher:** Not reported

## **VII. Sensitive Species Status (by year):**

<b>Species</b>	<b>Latest Survey</b>	<b>Number</b>	<b>General Status</b>
Light-footed Clapper Rail	2007	8 individuals	Stable to increasing
Belding's Savannah Sparrow	2006	5 individuals	Variable
California Least Tern	Not surveyed		
Western Snowy Plover	Not surveyed		
California Gnatcatcher	Not surveyed		

## **VIII. Endowment/funding accounting:** Budget to Actual for fiscal year, starting endowment amount and year, current endowment amount, inflation adjusted endowment amount.

This preserve is not funded through an endowment

- I. Preserve Name: Calavera Hills Phase II and Robertson Ranch East**
- II. Management Year: 2007/2008**
- III. Preserve Management Entity: CNLM**
- IV. Year of Inception: 2006**
- V. Summary of All Management and Monitoring Activities:**

**Habitat Enhancement**

- Installed and maintained drainage pipe from sub-drain outfall at edge of Village X to riparian area in center of parcel
- Began installing native plants at Village R with the help of volunteers and materials supplied by City of Carlsbad Parks Dept.
- Installed erosion control structures (sandbags) in down-cutting drainages at Villages X and H

**Invasive Species**

- Removed nonnative plant species including over 300 tree tobacco (*Nicotiana glauca*) and 400 pampas grass (*Cortaderia selloana*), 500 castor bean (*Ricinus communis*), a hundred smilo grass (*Piptatherum milleaceum*), several artichoke thistle (*Cynara cardunculus*), thousands of black mustard (*Brassica nigra*), and many fennel (*Foeniculum vulgare*) with herbicide and mechanical methods
- Continued to mow crown daisy (*Chrysanthemum coronarium*) in Village H
- Coordinated weed treatments in Calavera Creek, Robertson Ranch East Village wetland restoration area, and Village H upland areas with RECON personnel
- Controlled weeds at Village R in preparation for a planned restoration effort
- Contracted weed treatments in Village X parcel, adjacent to and surrounding thread-leaved brodiaea populations

**Species Monitoring and Management**

- Incidentally noted any reptiles, birds, and mammals observed on-site while conducting patrols, maintenance, or other monitoring tasks
- Detected sixteen pair of the coastal California gnatcatcher
- Seven populations of vegetative thread-leaved brodiaea (*Brodiaea filifolia*) at Village H were censused and mapped

- Six flowering thread-leaved brodiaea locations were mapped and censused at Village X
- One San Diego thornmint (*Acanthomintha ilicifolia*) population was censused and mapped at Village X
- Two populations of Palmer's grappleshook (*Harpagonella palmeri*) were censused and mapped
- One population of small-flowered microseris (*Microseris douglasii* var. *platycarpa*) was censused and mapped
- Searched for vernal pools in Robertson Ranch parcel east of College and found some indicator plant species

### **Recreation, Access Control and Public Service**

- Installed over 3800 feet of three-strand barbles-barbed-wire fencing
- Installed 4 kiosks at key locations along HCA edges with the help of City of Carlsbad Parks Dept. and volunteers
- Corresponded with HOA's and landscapers to limit irrigation runoff into the HCA, control weeds inside their property, and to stop them from dumping landscaping into CE
- Worked with City of Carlsbad Parks Dept., and Boy Scouts of America in the installation of split rail fencing at Village H
- Conducted regular patrol, site enforcement and trash pickup to protect the HCA

### **Other**

- Conducted a CE baseline documentation report for Robertson Ranch East and West parcels

## **VI. Primary Threats to Preserve, Species or Vegetation types<sup>1</sup>:**

<b>Threat</b>	<b>Locations</b>	<b>Size or Severity</b>	<b>Actions 2007-2008 Management Year</b>	<b>Planned Actions</b>
<b>INVASIVE SPP</b>				
Pampas grass <b>H</b> (R)	HOA managed slopes, recruits continually from airborne seed	<ul style="list-style-type: none"> <li>•Entire irrigated edge of HCA</li> <li>•All drainages</li> </ul>	<ul style="list-style-type: none"> <li>•Continued work with HOA management, homeowner outreach Landscapers removed and treated hundreds in Village U, W, late summer 2008</li> </ul>	Inflorescence removal during late summer 2009. Continue chemical treatment and pressure on HOA management, homeowner outreach
Perennial pepperweed ( <i>Lepidium latifolium</i> ) <b>E</b> (R)	<ul style="list-style-type: none"> <li>• Calavera Cr.,</li> <li>•HOA managed slopes above Robertson Ranch E</li> </ul>	<ul style="list-style-type: none"> <li>•24 sq. feet altogether, in 4 isolated locations along upper bench</li> <li>•Small infestation on irrigated slopes</li> </ul>	Continued work with contractors, HCA Manager also treated	Will ensure quarterly treatment and experiment with tarp techniques to starve plants for light

<b>Threat</b>	<b>Locations</b>	<b>Size or Severity</b>	<b>Actions 2007-2008 Management Year</b>	<b>Planned Actions</b>
Saltcedar ( <i>Tamarix ramosissima</i> ) <b>H (R)</b>	•West Village drainage, sporadic Calavera Cr., Siltation basin RR East	•Approx. 250 linear feet of drainage •Sporadic at East Village	•About ¼ removed by developer •Worked with HOA crews in eradicating from Preserve edge	•Will contract removal crews summer to eradicate from parcel, HCA Manager will also follow up treatments
Castor bean <b>L (R)</b>	•Calavera Cr, •edges of HOA managed slopes	Largely contained, hundreds of juveniles continue to sprout	Treated winter and summer 2008 along Calavera Creek	More treatments planned for summer 2009
Giant reed ( <i>Arundo donax</i> ) <b>H (R)</b>	Calavera Cr.	Only one locality	Sprayed winter, summer 2008	Almost eradicated, HCA Manager will spray twice during 2009
Fennel <b>H</b> (G, CSS, R, F)	Village H, Edges of Village K, Village U, Village W	Largely contained, but thousands remain, throughout all parcels	Treated Spring 2008, Village X, U, W, R	Contract annual treatment in Vill. H, K. HCA Mgr will treat Village U, W.
Saharan mustard ( <i>Brassica tournefortii</i> ) <b>H (CSS, F, G)</b>	Western edge Robertson Ranch East	Small infestation along SDGE access road.		Will limit spread through pulling or cutting prior to seed maturity
Artichoke thistle <b>M</b> (G, CSS)	Village H, Village X, RR East	Almost eradicated, estimated at three-dozen	Robertson Ranch population and Village X treated spring 2008	Contract annual treatment in Vill. H, Village X, RR E
Hotentot fig <b>H (CSS, R)</b> ( <i>Carpobrotus edulis</i> )	Village K, Robertson Ranch	Likely eradicated, formerly 3 large patches	Robertson Ranch, Village K treated fall/winter 2007-2008	Track re-sprouts
Tree tobacco <b>M</b> (CSS, R)	Calavera Cr., Village R, waste area Vill H	All disturbed areas, hundreds remain	Treated Robertson Ranch, Village H, Village R several times through summer 2008	Will cut and stump spray where found, disallow seed production
Bermuda buttercup ( <i>Oxalis pes-caprae</i> ) <b>M (G, R)</b>	Village H, Village R	Open areas, upper edges of native grassland and southern ¼ of Village H	Thousands sprayed Spring 2008 at Village R, H	Contract annual treatment in Village H, HCA Manager will control in Village R
<b>WATER DRAINAGE</b>	Village U, X, Robertson Ranch East, east of College Blvd., Robertson Ranch western parcel	Two locations in Village X, totaling roughly ½ acre of damage to native shrub cover	•Meetings with HOA management, emails, commitments to attempt draw-down on overwatering •Installation of water conveyance along sub-drain outfall area, central Village X, fall 2007	Continued work with HOA management, homeowner outreach
<b>ITINERANTS</b>	Robertson Ranch East, southern edge of Village X, Village K	One location at Robertson Ranch East, wash area along drainage at Village X, occasional at Village K	One posting in East Village, three in Village K Cleaned out 3 encampments	Frequent patrol, posting, and removal. Work with Carlsbad Police in arresting returning itinerants
<b>OTHER</b>	Marijuana growth Village W	20 plants total	Carlsbad Police called in to remove and report	Frequent patrol, prompt reporting and removal
	Unwanted trespass Village U, Village R, Village H		Fencing, signage placed at Village R, Fencing placed at Village H Information kiosks placed at four more locals throughout Preserve	Continued fencing maint. at Village H, Village R, potential fencing addition at Village H, Village U Frequent patrol

<sup>1</sup>H, M, L refer to California Invasive Plant Council rankings, and potential severity of plants, if present. H=high, M=moderate, L=limited.

Letters in parentheses represent what habitats these invasive plants threaten: G=native grassland, R=riparian, CSS=coastal sage scrub, F=native forb vegetation associations



## **VII. Sensitive Species Status (by year):**

See Calavera Hills/Robertson Ranch East annual report for details.

## **VIII. Endowment/funding accounting:** Budget to Actual for fiscal year, starting endowment amount and year, current endowment amount, inflation adjusted endowment amount.

<b>Site Name</b>	<b>Original Endowmt</b>	<b>FY07-08 Expend.</b>	<b>Endowmt 10/31/08</b>	<b>Initial &amp; Capital 10/31/08</b>	<b>Total Funds as of 10/31/08</b>	<b>Inflation Adj. Endmt 10/31/08</b>
Calavera Hills II/ Robertson Ranch E	\$1,650,293	\$68,476	\$1,340,812	\$153,864	\$1,494,676	\$1,745,823

**I. Preserve Name: Carlsbad Highlands Ecological Reserve**

**II. Management Year: 2007/2008**

**III. Preserve Management Entity: CDFG**

**IV. Year of Inception: Pre-existing (pre-HMP) preserve**

**V. Summary of All Management and Monitoring Activities:**

**Species-Related Management and Monitoring**

**Thread-leaved Brodiaea**

Most recent survey: 2008.

**California Gnatcatcher**

**Monitoring program:** Following standardized methodologies (focused survey, 2 visits), SCR staff monitored California gnatcatchers at Carlsbad Highlands ER, Agua Hedionda ER, Buena Vista Creek ER, and Batiquitos Lagoon ER.

Most recent survey: 5/23/08.

Next proposed survey: 2009.

**VI. Primary Threats to Preserve, Species or Vegetation types:**

**Threats to Species**

**California Gnatcatcher:** Unauthorized HOVs

**VII. Sensitive Species Status (by year):**

Species	Latest Survey	Number	General Status
Thread-leaved Brodiaea	2008	22 flowering individuals	
California Gnatcatcher	5-23-08	1 pair, 4 individuals	2005: 3 pairs; one pr had 2 fledges, another had 3 fledges)

**VIII. Endowment/funding accounting:** Budget to Actual for fiscal year, starting endowment amount and year, current endowment amount, inflation adjusted endowment amount.

This preserve is not funded through an endowment

**I. Preserve Name: Carlsbad Oaks North**

**II. Management Year: 2007/2008**

**III. Preserve Management Entity: CNLM**

**IV. Year of Inception: 3/2006**

**V. Summary of All Management and Monitoring Activities:**

**Habitat Enhancement**

- Twice applied erosion control, and revegetated a severely eroded section of trail which was destroyed by vandals both times.

**Invasive Species**

- Supervised the chemical control of several nonnative plant populations including pampas grass (*Cortaderia selloana*), artichoke thistle (*Cynara cardunculus*), castor bean (*Ricinus communis*), black mustard (*Brassica nigra*), poison hemlock (*Conium maculatum*), sweet fennel (*Foeniculum vulgare*), Perez's marsh rosemary (*Limonium perezii*), fountain grass (*Pennisetum setaceum*), and onion weed (*Asphodelus fistulosus*)
- Mechanically and chemically treated several populations of weeds throughout the HCA, including artichoke thistle, castor bean, pampas, fennel, saltcedar (*Tamarix ramosissima*), bristly ox-tongue (*Pichris echioides*)

**Species and Habitat Monitoring and Management**

- Photographed mule deer (*Odocoileus hemionus*) and coyote (*Canis latrans*) using the HCA along La Mirada and Agua Hedionda Creeks, and noted sign of deer usage in numerous areas throughout the HCA
- Incidentally noted bird species while conducting other activities, including a nesting pair of northern harriers (*Circus cyaneus*), a red shouldered hawk (*Buteo lineatus*)
- Mapped one pair of coastal California gnatcatcher (*Polioptila californica californica*)
- Censused the San Diego thornmint (*Acanthomintha ilicifolia*) population and assessed the vegetative cover by species within this population
- Mapped and censused three previously unknown populations of thread-leaved brodiaea (*Brodiaea filifolia*), and censused a previously known location

- Mapped and censused several previously unknown populations of CNPS rare plants such as Palmer's grapplinghook (*Harpagonella palmeri*), Douglas' micromeris (*Microseris douglasii* var. *platycarpa*), and golden rayed pentachaeta (*Pentachaeta aurea*)
- Performed two CNPS rapid assessments on the CE portion of the HCA

#### **Recreation, Access Control and Public Service**

- Continued to block sections of the illegally constructed "flightline" trail with vegetation, and maintained fencing
- Kept homeless encampments from forming by conducting routine patrols in problem areas
- Patrolled the HCA regularly, picking up trash, removing weeds, and looking for other potential problems

#### **Other**

- Conducted a CE compliance visit and report to ensure that the County was not violating the terms of the CE

### **VI. Primary Threats to Preserve, Species or Vegetation types<sup>1</sup>:**

See table at the end of this section

### **VII. Sensitive Species Current Status:**

See Carlsbad Oaks annual report

### **VIII. Endowment/funding accounting:** Budget to Actual for fiscal year, starting endowment amount and year, current endowment amount, inflation adjusted endowment amount.

Inception Date	Original Endowment	Endowment as of 10/31/08	Initial and Capital (10/31/08)	Total Preserve Funds	Inflation Adjusted Endowment as of 10/31/08
3/2006	\$1,020,311	\$805,378	\$55,038	\$860,416	\$1,078,686

## Carlsbad Oaks North: Threats

Threat	Locations	Size or Severity	Management Actions	Planned Actions
<b>INVASIVE SPECIES</b>				
Pampas grass <b>H</b> (R)	South slopes, neighboring Upper Deck property is a source, recruits continually from airborne seed, presently throughout HCA wetland areas.	Estimated at several hundred individuals	Agua Hedionda Cr swept by RECON crews, July 2008, La Mirada Cr. swept with RECON crews March 2008, freshwater marsh north of Faraday Ave., swept by RECON crews March and July 2008	Inflorescence removal by HCA Manager during late summer 2009 Continue chemical treatment and negation with Upper Deck property management, homeowner outreach where necessary
Saltcedar <b>H</b> (R)	Drainage along El Fuerte, s of intersection Faraday and El Fuerte. Source just off property along Faraday Ave, on private property, as well as Upper Deck property	25 plants total	Recon treated about 5 plants March and July 2008.	Will continue working with Techbilt to eradicate. Will contact homeowners and Upper deck to get permission to remove from HCA edge
Castor bean <b>L</b> (R)	La Mirada Cr.	Hundreds	Treated throughout drainage March 2008	More treatments planned for winter 2008
Fennel <b>H</b> (G, CSS, R, F)	South of Faraday, disturbed areas, grassland	Largely contained, though hundreds remain	Treated March 2008	Continue removing inflorescences prior to seed-set, continue contract spraying emergent leaves
Onion weed <b>M</b> (G, CSS)	Fill slopes above El Fuerte	Thousands	Most killed during Recon treatments winter 2008	Will continue contracting crews to eliminate plant from HCA
Artichoke thistle <b>M</b> (G, CSS)	Southwestern 18 ac parcel along Orion Ave.	Persistent population, estimated at 250	Mechanical treatment, spring 2008	Continue mechanical treatment
Tree tobacco <b>M</b> (CSS, R)	Southwestern 18 acre parcel along Orion Ave. Many in disturbed slopes along Faraday Ave.	Hundreds	None treated.	The drainage (See below) is the source of the problem
Bermuda buttercup <b>M</b> (G, R)	Benches above La Mirada Cr.	Hundreds	Several hundred sprayed by RECON crews March 2008	Continue treating in winter, attempt to eradicate
Florist's smilax <b>M</b> (R) ( <i>Asparagus asparagoides</i> )	La Mirada Cr.	One plant mapped	Recently noted	Will eradicate winter 2008-2009
<b>DRAINAGE/SEEP</b>	Southwestern 18 acre parcel along Orion Ave.,	½ acre estimate kill area	Mapped perimeter, set up photo monitoring points	Will continue mapping kill zone
<b>ITINERANTS</b>	Southwestern 18 acre parcel along Orion Ave.	One	Only one itinerant was found and removed before stay was visibly destructive to habitat	Frequent patrol, posting, and removal. Work with Carlsbad Police in arresting returning itinerants
<b>OTHER UNWANTED ACTIVITIES</b>	Marijuana growth along Agua Hedionda Cr. and La Mirada confluence. Clubhouse/party spot middle Agua Hedionda Cr.	10 plants	<ul style="list-style-type: none"> <li>Plants removed</li> <li>Clubhouse removed</li> </ul>	<ul style="list-style-type: none"> <li>Frequent patrol</li> <li>Prompt removal</li> </ul>

<sup>1</sup>H, M, L refer to California Invasive Plant Council rankings, and potential severity of plants, if present. H=high, M=moderate, L=limited. Letters in parentheses represent what habitats these invasive plants threaten: G=native grassland, R=riparian, CSS=coastal sage scrub, F=native forb vegetation association

**I. Preserve Name: Kelly Ranch**

**II. Management Year: 2007/2008**

**III. Preserve Management Entity: CNLM**

**IV. Year of Inception: 2002**

**V. Summary of All Management and Monitoring Activities:**

**Habitat Enhancement**

- Coordinated with Planning Systems, Inc. (the environmental consultant for the Kelly Ranch development) on the restoration efforts they are undertaking

**Invasive Species**

- Controlled nonnative species including over 50 tree tobacco (*Nicotianna glauca*), 15 pampas grass (*Cortaderia selloana*), hundreds of Natal grass (*Melinis repens*), and thousands of Saharan mustard (*Brassica tournefortii*)

**Species and Habitat Monitoring and Management**

- Surveyed for potential occurrences of Del Mar Manzanita (*Arctostaphylos glandulosa* subsp. *crassifolia*)
- Counted and measured Orcutt's hazardia (*Hazardia orcuttii*) adults and seedlings
- Censused and mapped populations of MHCP covered species including wart-stem ceanothus (*Ceanothus verrucosus*), cliff spurge (*Euphorbia misera*), and Coast scrub oak (*Quercus dumosa*)
- Censused and mapped CNPS List 4.2 rare plants, including Palmer's grapplinghook (*Harpagonella palmeri*), western dichondra (*Dichondra occidentalis*), and California box-thorn (*Lycium californicum*)

**Recreation, Access Control and Public Service**

- Fenced off and signed a foot trail nearby upper kiosk
- Conducted regular patrol, site enforcement and trash pickup to protect the HCA
- Continued to work with the Home Owner's Association (HOA) to ensure that homeowners comply with covenants, conditions, and restrictions (CC&R's)
- Lead a nature hike at HCA to increase homeowner understanding of the sites resources
- Installed information and protective materials in both upper and lower kiosk locations

## **Other**

- Conducted an annual CE Compliance visit and report
- Finalized a Habitat Management Plan to guide management activities from 2008 through 2013

## **VI. Primary Threats to Preserve, Species or Vegetation types<sup>1</sup>:**

See threats table at the end of this section

## **VII. Sensitive Species Status:**

See Kelly preserve annual report.

## **VIII. Endowment/funding accounting:** Budget to Actual for fiscal year, starting endowment amount and year, current endowment amount, inflation adjusted endowment amount.

Inception Date	Original Endowment	Expenditures	Endowment as of 10/31/08	Inflation Adjusted Endowment as of 10/31/08
3/2006	\$296,125	\$14,661	\$294,607	\$369,803

## **IX. Summary of Special Projects or Adaptive Management studies and Lessons Learned:**

**Orcutt's Hazardia studies** The Center owns the only known naturally occurring population of Orcutt's hazardia located within the Manchester Habitat Conservation Area. In the spring of 2003, the Center planted 25 Orcutt's hazardia at Kelly Ranch. In the spring of 2004, the Center planted 100 additional Orcutt's hazardia within the same area. Habitat conditions (i.e., soils, aspect, vegetation community, proximity to the ocean) in the transplant location at the Kelly Ranch HCA are similar to the habitat found at the Manchester Habitat Conservation Area. Results are summarized below:

	2005	2006	2007	2008
<b>No. Adults</b>	97	104	106	100
<b>No. Seedlings Alive</b>			3	16
<b>No. Seedlings Dead</b>			0	5
<b>Total Seedlings</b>			3	21

## Kelly Ranch Threats

Threat	Locations	Size or Severity	Management Actions	Planned Actions
<b>INVASIVE SPECIES</b>				
Pampas grass <b>H</b> (R)	HOA managed slopes (outside limits of the Conservation Easement), recruits continually from airborne seed	<ul style="list-style-type: none"> <li>•Entire edge of HCA</li> <li>•All drainages</li> </ul>	<ul style="list-style-type: none"> <li>•Cut inflorescences, sprayed</li> <li>•Continued work with HOA management, homeowner outreach, Planning systems</li> </ul>	Where necessary, inflorescence removal by HCA Manager during late summer 2009. Continue chemical treatment and pressure on HOA management, homeowners, and Planning Systems
Fennel <b>H</b> (G, CSS, R, F)	Sporadic	Largely contained, several remain, throughout all parcels	Removed inflorescences	Eradicate from section of HCA with early spring herbicide treatments
Saharan mustard <b>H</b> (CSS, F, G)	Lot 163, above Carlsbad Country Day School, Lot 79 behind 5212 and 5217 Clemmens Ct, Lot 78 behind 2186 Twain Ave.	Thousands, dense	Removed every mature plant prior to seed set with the exception of Lot 78	HCA Manager will work toward limiting spread through pulling or cutting prior to seed maturity, and will apply pressure on Planning Systems to remove
Hotentot fig <b>H</b> ( <i>Carpobrotus edulis</i> ) (CSS,R)	Lot 79 behind several homes on Twain Ave but outside limits of the Conservation Easement.	Largely eradicated, several small patches remain	Met with HOA management, HOA Board, and HOA maintenance	Track re-sprouts, continue pressure on HOA to remove re-sprouts and extra patches
Tree tobacco <b>M</b> (CSS, R)	Drainages, some edges, mostly in drainage at base of Lot 79	All disturbed areas, hundreds remain	Not much control took place this management year	HCA Manager will cut and stump spray where found, disallow seed production
Natal grass (CSS, G)	Sandy soils, css and chaparral habitat Lots 77 & 79	Sporadic, likely several hundred	Sprayed with Fusilade, hand pulled where necessary	HCA Manager will continue eradication efforts
<b>UNWANTED TRESPASS</b>	<ul style="list-style-type: none"> <li>•Central portion of Lot 159 from kiosk down halfway to drainage</li> <li>•Children continue to build forts/pellet shooting range in restoration area Lot 79</li> </ul>	Thin trail, mostly grown back by late spring. Not very damaging, but keeps restoration from filling in within play area	<ul style="list-style-type: none"> <li>•Fencing, signage placed nearby kiosk, point of entry</li> <li>•Removed two hay bales, removed several dead vegetation shelters/forts</li> </ul>	<ul style="list-style-type: none"> <li>•Continued fencing maintenance, continue homeowner outreach</li> <li>•Continue regular patrol and removal efforts, continue homeowner outreach</li> </ul>

<sup>1</sup>H, M, L refer to California Invasive Plant Council rankings, and potential severity of plants, if present. H=high, M=moderate, L=limited. Letters in parentheses represent what habitats these invasive plants threaten: G=native grassland, R=riparian, CSS=coastal sage scrub, F=native forb vegetation associations



**I. Preserve Name: North County Habitat Bank/Encinas Creek**

**II. Management Year: 2007/2008**

**III. Preserve Management Entity: CNLM**

**IV. Year of Inception: May 2008**

**V. Summary of All Management and Monitoring Activities:**

- The site was patrolled about every 2-3 weeks.
- Removed about 25 small resprouts and 5 larger clumps of pampas grass (*Cortaderia* spp.), hand-pulled about 15 palms (*Washingtonia* spp), cut down three large acacia (*Acacia* spp), and 2 small Eucalyptus trees (*Eucalyptus* spp), and herbicide sprayed two patches of ice plant (*Carpobrotus edulis*).
- Posted CNLM No Trespassing signs along Palomar Airport Road and at the main access gate.
- Removed trash as it was observed.
- Noted sensitive animal species during site visits (Figure 3). A pair of least Bell's vireo (*Vireo bellii pusillus*) was observed near the western boundary.
- Developed an annual work plan for the upcoming fiscal year and submitted it to the City and wildlife agencies.
- Developed a digital database, which include 2007 and 2008 digital aerial photography, site boundary, vegetation and sensitive species files.

**VI. Primary Threats to Preserve, Species or Vegetation types<sup>1</sup>:**

Encinas Creek HCA inception is May of 2008, so only 5 months of management has taken place. Preserve is a small 19 acres site of very high quality southern willow scrub. This site has few negative issues or threats.

**VII. Sensitive Species Status:**

Surveys not complete.

**VIII. Endowment/funding accounting:** Budget to Actual for fiscal year, starting endowment amount and year, current endowment amount, inflation adj. endowment amount.

Original Endowmt	FY07-08 Expend.	Endowmt 10/31/08	Initial & Cap. 10/31/08	Total 10/31/08	Inflation Adj. 10/31/08
\$427,004	\$24,001	\$306,900	\$71,676	\$378,576	\$426,071

**I. Preserve Name: Rancho La Costa**

**II. Management Year: 2007/2008**

**III. Preserve Management Entity: CNLM**

**IV. Year of Inception: 2002**

**V. Summary of All Management and Monitoring Activities:**

**Habitat Enhancement**

- CNLM installed container plants in two locations and installed supplemental irrigation at the Huff parcel.
- The Greens restoration sites were toured with Helix Environmental, Inc.
- A severely eroded slope in University Commons (the Hubbard Slope) was graded and straw wattles were placed perpendicular to the slope to stop erosion.
- CNLM used volunteers to initiate several restoration, maintenance, and construction projects.
- Fuel breaks were mowed as required by the Fire Department.

**Invasive Species**

- Ants collected in the spring of 2006 were identified.
- The following non-native plant species were controlled or removed: tree tobacco (*Nicotiana glauca*), Russian thistle (*Salsola* spp.), onion weed (*Asphodelus fistulosus*), perennial pepperweed (*Lepidium latifolium*), pampas grass (*Cortaderia* spp.), tamarisk (*Tamarix* spp), shamal ash (*Fraxinus uhdei*), palm trees (*Phoenix canariensis*, *Washingtonia filifera*), castor bean (*Ricinis communis*), fennel (*Foeniculum vulgare*), artichoke thistle (*Cynara cardunculus*), eucalyptus trees (*Eucalyptus* spp) and non-native grasses and forbs.

**Species Monitoring and Management**

- Wildlife corridor tracking was completed at several locations within the HCA.
- Incidental observations of sensitive plant and animals species were recorded.
- The condition of the thread-leaved brodiaea (*Brodiaea filifolia*) habitat at La Costa Greens was assessed.
- Focused surveys for thread-leaved brodiaea, Orcutt's brodiaea (*B. orcuttii*), San Diego thornmint (*Acanthomintha ilicifolia*, sticky dudleya (*Dudleya viscida*), wart-stemmed ceanothus (*Ceanothus verrucosus*), scrub oak (*Quercus dumosa*), summer holly (*Comarostaphylos diversifolia*), and Del Mar manzanita (*Arctostaphylos glandulosa* var. *crassifolia*) were conducted.

- Thread-leaved brodiaea and San Diego thornmint seed was collected in order to propagate plants during the upcoming fiscal year.

### **Recreation, Access Control and Public Service**

- The existing trail system was improved by CNLM staff and volunteers, a new trail was created, and an old trail was revegetated.
- Fences, signs, and kiosks were installed in many locations throughout the HCA.
- CNLM spent considerable time and resources enforcing unwanted trespass, picking up trash, dealing with itinerant encampments, and educating the public
- Two part-time rangers were hired to patrol and enforce compliance at Box Canyon and in several other areas in the HCA.
- During the fiscal year CNLM installed about 2,000 linear feet of barbed wire fencing along the southwestern boundary of the HCA (at the designated wildlife crossing), in several locations north of Box Canyon, and near an illegally created trail on the eastern edge of the HCA. Smaller segments were added as needed in several other locations.

### **Other**

- CE compliance monitoring was conducted and all required documentation was prepared.

## **VI. Primary Threats to Preserve, Species or Vegetation types:**

See threats table at the end of this section.

## **VII. Sensitive Species Status (by year):**

See Rancho La Costa annual report.

## **VIII. Endowment/funding accounting:** Budget to Actual for fiscal year, starting endowment amount and year, current endowment amount, inflation adjusted endowment amount.

Projects	Inception Date	Original Endowment	Endowment as of 10/31/08	Inflation Adjusted Endowment as of 10/31/08
La Costa Villages	2/2002	\$1,364,400	\$1,314,888	\$1,691,758
University Commons	3/2002	\$623,954	\$602,693	\$746,630
Elfin Forest	8/2002	\$104,600	\$112,858	\$129,269
Nelson	6/2001	\$72,180	\$63,678	\$84,275
Cassia Offices	1/2007	\$100,844	\$77,099+ \$13,580 capital	\$107,284
<b>Totals</b>		<b>\$2,265,978</b>	<b>\$2,184,796</b>	<b>\$2,759,216</b>

## IX. Summary of Special Projects or Adaptive Management studies and Lessons Learned:

- Herbicide experiments were conducted on onion weed and a weed removal technique experiment was conducted for a second year on occupied thread-leaved brodiaea habitat.

### Thread-leaved Brodiaea

- The management objective is to increase, or protect a stable mean density of thread-leaved brodiaea and to decrease the percent cover of non-native grasses, specifically purple-false brome (*Brachypodium distachyon*).
- The study will include a comparison of three treatments plus a control: (1) herbicide application, (2) herbicide plus dethatching, (3) dethatching only.
- Only two years of the program have been implemented. More years of data are needed to be able to analyze results.

### Coastal Sage Scrub Habitat

- CNLM initiated a pilot study to track the changes in structure and composition of the coastal sage scrub community (CSS) in the HCA. CNLM will continue to establish and collect data in these monitoring plots during the 2008-2009 fiscal year.

### Rancho La Costa Threats

Threat	Locations	Size or Severity	Actions 2007-2008 Management Year	Planned Actions
<b>Weeds</b>				
Acacia trees ( <i>Acacia</i> spp) NA	Riparian and upland areas throughout the HCA.	Unknown, but likely less than 10 trees.	Several individuals cut and stump sprayed or sprayed with herbicide.	Will treat or cut with a chainsaw when located.
Onion Weed ( <i>Asphodelus fistulosus</i> ) M	Located at the Greens.	Approximately 1 acre.	Sprayed with herbicide.	Will treat individuals with herbicide as they return.
Hotentot fig ( <i>Carpobrotus edulis</i> ) H	Two patches located in the HCA.	Both patches are approximately ¼ acre in size.	Portions of one patch sprayed with herbicide.	Will treat as budget permits.
Ward's Weed ( <i>Carrichtera annua</i> ) NA	Located at the Greens.	Approximately 2 acres in size.	None	Will treat at least once during the 2008-2009 fiscal year.
Pampas grass ( <i>Cortaderia</i> spp.) H	Throughout riparian and in some upland areas.	Moderate in the Greens and Box Canyon.	Treated 100's of individuals in many locations.	Will continue to treat individuals as they are located.
Artichoke thistle ( <i>Cynara cardunculus</i> ) M	Primarily at the Greens.	Low infestation.	Individuals hand pulled this year, but most of population has already been eradicated.	Will continue to treat and hand pull individuals as they are located.
African Daisy ( <i>Dimorphotheca sinuata</i> ) NA	Along Old Rancho Santa Fe Road and near the Winston parcel.	Low	None	Treat over the next few years as other species are treated in the vicinity of the populations.
Fuller's Teasel ( <i>Dipsacus sativus</i> ) M	Box Canyon	Approximately 20 plants.	None	Will treat with herbicide.
Purple Veldtgrass ( <i>Ehrharta calycina</i> ) H	Two populations: the Greens and along Old Rancho Santa Fe Road.	Dense patches at the Greens covering about 2 acres	None	Will spray with herbicide if budget permits.
Eucalyptus species ( <i>Eucalyptus</i> spp.) M	Riparian and upland areas throughout the HCA.	At least 200 individuals across the HCA.	Approx. 40 trees cut with a chainsaw and many others were sprayed with herbicide.	Will continue to treat/cut individuals; lg populations to be cut down when budget permits.
Fennel ( <i>Foeniculum vulgare</i> ) H	Located throughout the HCA.	Size is variable, but only considered severe in several locations at the Greens.	Thousands of individuals treated with herbicide.	Will continue to treat small infestation; larger infestations to be treated as budget permits.

Threat	Locations	Size or Severity	Actions 2007-2008 Management Year	Planned Actions
Shamal Ash ( <i>Fraxinus uhdei</i> ) NA	Box Canyon	Unknown and severity considered moderate.	Approximately 10 individuals cut and treated with herbicide.	Will cut with a chainsaw or spray as budget permits.
Daisy (Gazania spp.) NA	Franks Peak and other scattered locations.	Low infestation	Hand pulled and sprayed with herbicide.	Spray with herbicide.
Perennial pepperweed ( <i>Lepidium latifolium</i> ) H	The Greens	Several acres	Treated several times during the past fiscal year.	Will treat several more times during the upcoming fiscal year.
Myoporum ( <i>Myoporum laetum</i> ) M	Only several individuals located.	Very low	None	Will continue to treat individuals as they are located.
Tree Tobacco ( <i>Nicotiana glauca</i> ) M	Located throughout the HCA.	Low and scattered throughout the HCA.	Cut and painted with herbicide and hand pulled when located.	Will continue to cut and paint with herbicide when observed.
Fountain Grass ( <i>Pennisetum setaceum</i> ) M	Located throughout the HCA, but largest population is along Old Rancho Santa Fe Road.	Severe along Old Rancho Santa Fe Road, but very low in other locations.	Some individuals sprayed with herbicide.	Will treat the Old Rancho Santa Fe population and other locations when encountered.
Canary Island Date Palm ( <i>Phoenix canariensis</i> ) L	The Greens	Approximately 10	Approximately 5 were drilled and filled and other smaller individuals were sprayed with herbicide.	Budget insufficient for complete removal, which is necessary at the Greens due to close proximity to homes.
Russian Thistle ( <i>Salsola tragus</i> ) L	Located sporadically throughout the HCA, mostly in restoration sites (Huff and Old Rancho Santa Fe Road).	Moderate at Huff and low everywhere else.	Sprayed and hand pulled hundreds during two treatment sessions.	Will continue to spray and hand pull when located, especially at Huff and along Old Rancho Santa Fe Road.
Castor Bean ( <i>Ricinus communis</i> ) L	Riparian areas (primarily Huff)	Very low	Treated and hand pulled several times.	Will be treated or hand pulled when located.
Peruvian Peppertree ( <i>Schinus molle</i> ) L	The Greens	One tree	None	Will cut with a chainsaw.
Brazilian Peppertree ( <i>Schinus Terebinthifolius</i> ) L	Box Canyon.	Approximately five trees.	none	Will cut with a chainsaw if budget permits.
Saltcedar ( <i>Tamarix</i> spp) H	Riparian areas, primarily at the Greens.	Approximately 100 individuals.	Treated with herbicide once.	Will be sprayed once.
Mexican Fan Palm ( <i>Washingtonia robusta</i> ), M;	Riparian areas, primarily the Greens and Box Canyon.	Approximately 8	Small saplings and seedlings were hand pulled or treated with herbicide; larger individuals were not treated	Budget insufficient for complete removal, which is necessary at the Greens due to close proximity to homes.
Non-native Forbs	Located throughout the HCA in all habitat types.	Severe black mustard, tocalote, and bristly ox-tongue	Treated with herbicide or weed whipped in several locations.	Will treat with herbicide and weed whip when and where budget allows.
Non-native Annual Grasses	Located throughout the HCA in all habitat types.	Severe for purple false-brome and wild oats.	Treated with herbicide or weed whipped in several locations.	Will treat with herbicide and weed whip when and where budget allows.
<b>Other</b>				
Trespass	The Greens, the Brouwer Quarry area, and Box Canyon.	Low and moderate at Box Canyon.	Installed signs and fences ; hired weekend rangers to patrol the problem areas.	Frequent patrols, install signs and fences. Hire weekend rangers and/or a CNLM ranger.
Illegal Trail Creation	Denk Mountain and southern Huff parcel.	Low	Blocked illegal trails, put fences across illegal trails	Frequent patrols and render trails unusable when located.
Erosion	In specific locations, such as along Denning Road.	Very low	None	Will be placing gravel bags in gullies on Denning Road.
Itinerant Encampments	The Greens	Low to moderate	Two camps located this year. Contact made with itinerants and all trash and debris removed after itinerants left.	Frequent patrols
Trash and Debris	Throughout, but primarily at Franks Peak, Elfin Forest Off-site and Choumass-Pappas.	Minimal throughout	Trash cleaned up, made many dump trips after clean ups.	Remove as observed

## References

- Multiple Habitat Conservation Program (MHCP). 2003. Final MHCP Plan. Volumes I-III. Prepared for the Cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista, March 2003.
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- Zemba, R., S. Hoffman, J. Konecny, C. Gailband, L. Conrad, and M. Mace. 2007. Light-footed clapper rail management, study, and propagation in California, 2007. Prepared for the California Department of Fish and Game.